10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Presenilin 1 Antibody (C-term) [Knockout Validated]

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5708

Specification

Presenilin 1 Antibody (C-term) [Knockout Validated] - Product Information

Application	**IF, WB, IHC-P, FC,E**
Primary Accession	P49768
Other Accession	P97887, P49769, Q8HXW5
Reactivity	**Human**
Predicted	**Mouse, Rat, Monkey**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Source	**HUMAN**

Presenilin 1 Antibody (C-term) [Knockout Validated] - Additional Information

Gene ID 5663

Antigen Region
330-359

Other Names
Presenilin-1, PS-1, 3423-, Protein S182, Presenilin-1 NTF subunit, Presenilin-1 CTF subunit, Presenilin-1 CTF12, PS1-CTF12, PSEN1, AD3, PS1, PSNL1

Dilution
IF~~1:10~50
WB~~1:500-1:2000
IHC-P~~1:50~100
FC~~1:10~50

Target/Specificity
This Presenilin 1 (PSEN1) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 330-359 amino acids from the C-terminal region of human Presenilin 1 (PSEN1).

Format
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Presenilin 1 Antibody (C-term) [Knockout Validated] is for research use only and not for use in diagnostic or therapeutic procedures.

Presenilin 1 Antibody (C-term) [Knockout Validated] - Protein Information

Name PSEN1

Synonyms AD3, PS1, PSNL1

Function
Catalytic subunit of the gamma-secretase complex, an endoprotease complex that catalyzes the intramembrane cleavage of integral membrane proteins such as Notch receptors and APP (amyloid- beta precursor protein) (PubMed:15274632, PubMed:10545183, PubMed:10593990, PubMed:10206644, PubMed:10899933, PubMed:10811883, PubMed:12679784, PubMed:12740439, PubMed:25043039, PubMed:26280335, PubMed:30598546, PubMed:30630874, PubMed:28269784, PubMed:20460383). Requires the presence of the other members of the gamma-secretase complex for protease activity (PubMed:15274632, PubMed:25043039, PubMed:26280335, PubMed:30598546, PubMed:30630874). Plays a role in Notch and Wnt signaling cascades and regulation of downstream processes via its role in processing key regulatory proteins, and by regulating cytosolic CTNNB1 levels (PubMed:9738936, PubMed:10593990, PubMed:10899933, PubMed:10811883). Stimulates cell-cell adhesion via its interaction with CDH1; this stabilizes the complexes between CDH1 (E-cadherin) and its interaction partners CTNNB1 (beta-catenin), CTNND1 and JUP (gamma-catenin) (PubMed:11953314). Under conditions of apoptosis or calcium influx, cleaves CDH1 (PubMed:11953314). This promotes the disassembly of the complexes between CDH1 and CTNND1, JUP and CTNNB1, increases the pool of cytoplasmic CTNNB1, and thereby negatively regulates Wnt signaling (PubMed:9738936, PubMed:11953314). Required for normal embryonic brain and skeleton development, and for normal angiogenesis (By similarity). Mediates the proteolytic cleavage of EphB2/CTF1 into EphB2/CTF2 (PubMed:17428795, PubMed:28269784). The holoprotein functions as a calcium-leak channel that allows the passive movement of calcium from endoplasmic reticulum to cytosol and is therefore involved in calcium homeostasis (PubMed:25394380, PubMed:16959576). Involved in the regulation of neurite outgrowth (PubMed:15004326, PubMed:<a href="http://www.uniprot.org/citations/20460383"

target="_blank">20460383). Is a regulator of presynaptic facilitation, spike transmission and synaptic vesicles replenishment in a process that depends on gamma-secretase activity. It acts through the control of SYT7 presynaptic expression (By similarity).

Cellular Location
Endoplasmic reticulum. Endoplasmic reticulum membrane; Multi-pass membrane protein. Golgi apparatus membrane; Multi-pass membrane protein. Cytoplasmic granule. Cell membrane; Multi-pass membrane protein. Cell projection, growth cone. Early endosome. Early endosome membrane; Multi-pass membrane protein. Cell projection, neuron projection. Cell projection, axon {ECO:0000250|UniProtKB:Q4JIM4}. Synapse {ECO:0000250|UniProtKB:Q4JIM4}. Note=Translocates with bound NOTCH1 from the endoplasmic reticulum and/or Golgi to the cell surface (PubMed:10593990). Colocalizes with CDH1/2 at sites of cell-cell contact. Colocalizes with CTNNB1 in the endoplasmic reticulum and the proximity of the plasma membrane (PubMed:9738936). Also present in azurophil granules of neutrophils (PubMed:11987239). Colocalizes with UBQLN1 in the cell membrane and in cytoplasmic juxtanuclear structures called aggresomes (PubMed:21143716).

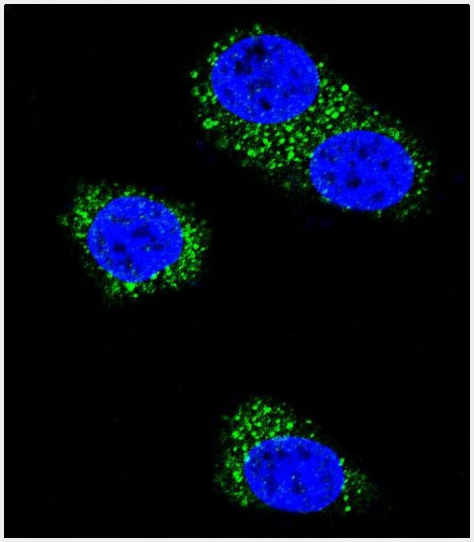
Tissue Location
Detected in azurophile granules in neutrophils and in platelet cytoplasmic granules (at protein level) (PubMed:11987239) Expressed in a wide range of tissues including various regions of the brain, liver, spleen and lymph nodes (PubMed:7596406, PubMed:8641442, PubMed:8574969).

Presenilin 1 Antibody (C-term) [Knockout Validated] - Protocols

Provided below are standard protocols that you may find useful for product applications.

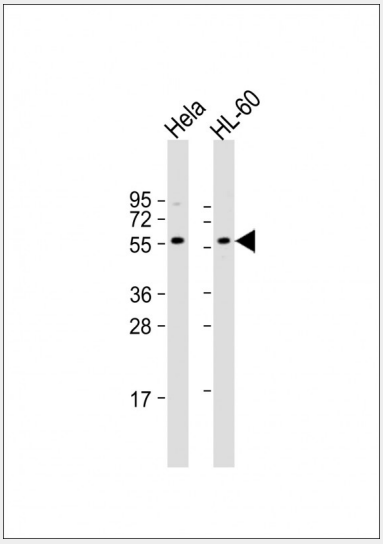
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Presenilin 1 Antibody (C-term) [Knockout Validated] - Images

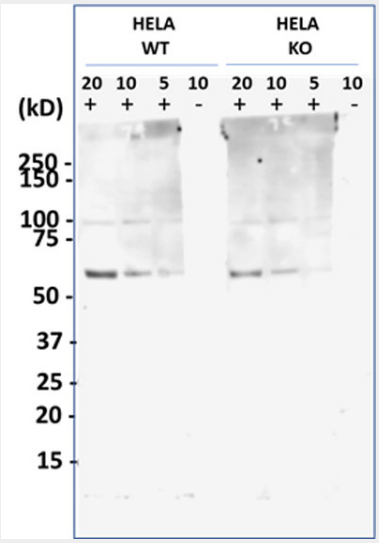


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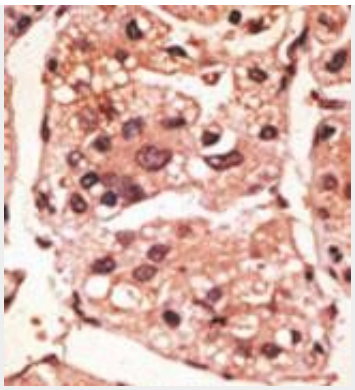
Confocal immunofluorescent analysis of Presenilin 1 (PSEN1) Antibody (C-term)(Cat#AP6231a) with MDA-MB435 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).DAPI was used to stain the cell nuclear (blue).



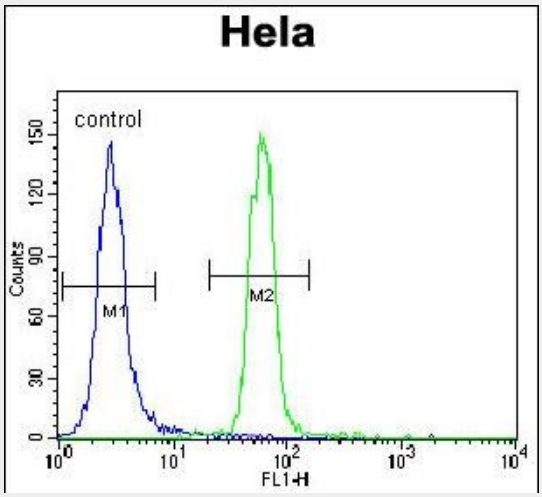
All lanes : Anti-PSEN1 Antibody (C-term) at 1:1000 dilution Lane 1: Hela whole cell lysate Lane 2: HL-60 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 53 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



A dominant 59.6 kDa band and faint 87.6 kDa band for both the Hela wild type and knock out lysates were observed (3 ug/ml anti-PSEN1) vs the predicted size of 52.7 kDa. The molecular weight discrepancy could be due a post-translationally modified form of the target protein, a splice-variant form of the target protein, or an unrelated protein which shares the antibody-reactive epitope. The presence of bands in the knock out lysates suggest incomplete knockout of the target gene.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.



Presenilin 1 (PSEN1) Antibody (C-term) (Cat. #AP6231a) flow cytometric analysis of Hela cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Presenilin 1 Antibody (C-term) [Knockout Validated] - Background

Alzheimer's disease (AD) patients with an inherited form of the disease carry mutations in the presenilin proteins (PSEN1; PSEN2) or the amyloid precursor protein (APP). These disease-linked mutations result in increased production of the longer form of amyloid-beta (main component of amyloid deposits found in AD brains). Presenilins are postulated to regulate APP processing through their effects on gamma-secretase, an enzyme that cleaves APP. Also, it is thought that the presenilins are involved in the cleavage of the Notch receptor, such that they either directly regulate gamma-secretase activity or themselves are protease enzymes.

Presenilin 1 Antibody (C-term) [Knockout Validated] - References

Marambaud, P., et al., Cell 114(5):635-645 (2003). Kim, S.H., et al., J. Biol. Chem. 278(36):33992-34002 (2003). Miklossy, J., et al., Neurobiol. Aging 24(5):655-662 (2003). Cai, D., et al., J. Biol. Chem. 278(5):3446-3454 (2003). Godin, C., et al., Neuroreport 14(12):1613-1616 (2003).

Presenilin 1 Antibody (C-term) [Knockout Validated] - Citations

- Nicotine decreases beta-amyloid through regulating BACE1 transcription in SH-EP1-Î±4Î²2 nAChR-APP695 cells.

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